

XVI. *British Species of the Genus Stenus.* By Messrs.  
G. R. WATERHOUSE and E. W. JANSON.

[Read 1st January, 1855.]

IN the paper which we have now the honour of laying before the meeting, we originally proposed to furnish a list of the British species of the genus *Stenus*, as identified with the descriptions in Erichson's "*Genera et Species Staphylinorum*," but subsequently we thought it desirable to append to the last our determination of the species of *Stenus* contained in the collection of the late Mr. J. F. Stephens as well as in that of the Rev. W. Kirby.

To render the list as perfect as possible, we have been kindly assisted by the loan of the entire collection of *Stenidæ* of several of our most assiduous Entomologists, and we have especially to thank Messrs. Wollaston, J. Curtis, and S. Stevens for such assistance.

With regard to the Stephensian collection (now in the British Museum), it is desirable to state, that the specimens which Mr. Stephens used to call his "*Type specimens*" are almost always marked by some kind of ticket attached to the pin holding the insect. The Marshamian specimens are thus marked by a round yellow ticket; and when the species is described in the "*Entomologia Britannica*," a number will be found on the under side of the ticket, corresponding to the number of the species in that work. Other type specimens are either marked by a round white ticket without a number, or by a small square ticket with a number. Mr. Stephens' own species are not marked. The species follow in succession, in the cabinet, in accordance with the descriptions in the "*Illustrations*," but in one or two instances there have undoubtedly been some accidental transpositions; and to prevent further changes of this nature, all the species, and indeed nearly all the specimens, have now been numbered to correspond with the numbers of the species as given in the "*Manual*." The numbers here alluded to are on small oval tickets attached to the specimens, and it is to these numbered specimens that we more particularly refer in the notes which are contained in this communication.

The paper is divided into two parts: the first containing a list

of all the British species which have come under our observation, with a notice of the localities in which they were found, the species being determined from Erichson's descriptions. The second portion of the paper consists of observations upon the Kirbyan and Stephensian species.

Sp. 1. *Stenus biguttatus*, Linn.

Whittlesea Mere; Shenton, Leicestershire; Tintern, Monmouthshire; Northampton; Wales; and Lincoln—T. V. W.\* Highgate—G. R. W.† Finchley, Middlesex, beneath dead leaves in the dry bed of a rivulet, end of August—E. W. J.‡

Sp. 2. *Stenus bipunctatus*, Erichs.

Whittlesea Mere; Shenton; Knaith, and Scawby, Lincolnshire; Cransley, Northamptonshire; Wales, and South Ferriby on the Banks of the Humber—T. V. W. Highgate Ponds and Wandsworth Common—G. R. W. Croydon Canal; May-water Meadows; Wilton and Naves Park; Blackgang Chine—J. C.§ Borders of the Brent, near Kingsbury, Middlesex, August; Wanstead, Essex, August; Chalk-pit, Charlton, Kent, May—E. W. J.

Sp. 3. *Stenus guttula*, Müller.

Luccomb Chine, Isle of Wight, and Highgate—G. R. W. Banks of the Lea, Tottenham, March—E. W. J.

Sp. 4. *Stenus bimaculatus*, Gyll.

In moss, in the month of March; and under bundles of reeds, in the month of May; marshes, Suffolk—J. C. Cransley; on the banks of the Ouse, Bedfordshire; Ambion Wood, Leicestershire; Cainby and Spridlington, Lincolnshire; and Rosnalee, county of Cork—T. V. W. Berwickshire, (Mr. J. Hardy); Finchley, July—E. W. J.

Sp. 5. *Stenus Juno*, Fab.

Shenton and Boston, Lincolnshire; Cransley; Slapton Ley, Devonshire; Whittlesea Mere; Box-hill, Dorking; Norwich and Lowestoft—T. V. W. Neighbourhood of London, common—

\* Mr. T. Vernon Wollaston.

† Mr. G. R. Waterhouse.

‡ Mr. E. W. Janson.

§ Mr. John Curtis.

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G. R. W.\* “Weston-on-the-Green, Oxfordshire, Mr. Matthews.”  
—J. C. Berwickshire (Mr. J. Hardy); Northampton (Mr. R. N. Greville); banks of the Lea at Tottenham, March—E. W. J.

Sp. 6. *Stenus asphaltinus*, Erichs.

Chalk-pit, Greenhithe, Kent—G. R. W. Chalk-pit, Charlton, May—E. W. J.

Sp. 7. *Stenus ater*, Mann.

Greenhithe, in the month of June—G. R. W.

Sp. 8. *Stenus buphthalmus*, Grav.

Highgate and Wandsworth Common—G. R. W. Bedfordshire, on the banks of the Ouse; Whittlesea Mere; Withington, Cotswold Hills, Gloucestershire; Boston; Slapton Ley; Holyhead; Slayford Bridge, Hampshire; Kelham, Northamptonshire, banks of the Trent; and Killarny, Ireland—T. V. W. Wilton, Wiltshire—J. C. Banks of the Lea, near Tottenham, March; Colney-hatch, March; Northampton (Mr. R. N. Greville)—E. W. J.

Sp. 9. *Stenus morio*, Erichs.?

A single specimen taken running on the muddy bottom of a water-course, in a wood near Highgate, on the 28th of August, 1854—E. W. J.

Sp. 10. *Stenus cinerascens*, Erichs.?

See notes upon species 9 and 10 in the portion of the paper which relates to the Kirbian species.

Sp. 11. *Stenus incrassatus*, Erichs.

Wandsworth Common, June; Wimbledon Common, from moss in the winter—G. R. W.

Sp. 12. *Stenus melanopus*, Marsham.

Highgate—G. W. R. Deal; Bassel Down, Wilts; and Boston—T. V. W. Potter's Bridge, near Southwold, Suffolk—J. C. Banks of the Brent, near Kingsbury, August; Hampstead, June; Finchley, July—E. W. J.

\* This, as well as the *Stenus speculator*, is tolerably common in the court in front of the British Museum, where many *Coleoptera* are found by my children.—G. R. W.

Sp. 13. *Stenus æmulus*, Erichs.

Whittlesea Mere—T. V. W.

Sp. 14. *Stenus canaliculatus*, Gyll.

Highgate, July—G. R. W. Deal; Fleetwood, Lancashire; Whittlesea Mere; Boston; Slapton Ley; Holyhead; Lowestoft; Headley—T. V. W. Horning, Norfolk—J. C. Banks of the Brent, near Kingsbury, September; Northampton (Mr. R. N. Greville)—E. W. J.

Sp. 15. *Stenus opacus*, Erichs.

Two specimens in Mr. Waterhouse's collection, which he has reason to believe are from Northumberland.

Sp. 16. *Stenus pusillus*, Erichs.

Highgate—G. R. W. Bedfordshire; Ferriby; Cransley; and Deal—T. V. W. Downham, Norfolk—J. C. Northampton (Mr. R. N. Greville)—E. W. J.

Sp. 17. *Stenus exiguus*, Erichs.

Spridlington, Lincolnshire; and Rosnalee, county of Cork—T. V. W.

Sp. 18. *Stenus speculator*, Erichs.

Common in the neighbourhood of London—G. R. W. Rosnalee, county of Cork; Treneglos, Cornwall; Spridlington; Cransley; Mablethorpe, coast of Lincolnshire; Dublin; Pencraig, S. of Anglesea; Southend—T. V. W. Suffolk; Norfolk; and Wiltshire—J. C. Berwickshire (Mr. J. Hardy); Northampton (Mr. R. N. Greville); copiously throughout the year at Colneyhatch, Finchley, &c.—E. W. J.

Sp. 19. *Stenus providus*, Erichs.

Whittlesea Mere; Isle of Wight; and Cransley—T. V. W. Colneyhatch and Finchley, among moss, late in the autumn and in winter—E. W. J. From moss, January, Wimbledon Common—G. R. W.

Sp. 20. *Stenus argus*, Grav.

Spridlington—T. V. W.

Sp. 21. *Stenus vafellus*, Erichs.

Spridlington ; and Killarny—T. V. W.

Sp. 22. *Stenus fuscipes*, Grav.

Neighbourhood of London—G. R. W. Killarny, Ireland—  
T. V. W. Northampton (Mr. R. N. Greville)—E. W. J.

Sp. 23. *Stenus circularis*, Grav.

Downham, Norfolk—J. C.

Sp. 24. *Stenus declaratus*, Erichs.

In moss, Hampstead Heath—G. R. W. Withington, Gloucestershire ; Trebartha, Cornwall ; Chepstow and Tintern, Monmouthshire ; Holyhead ; Killarney ; and Rosnalee—T. V. W. In moss, Finchley, November ; Northampton (Mr. R. N. Greville)—E. W. J.

Sp. 25. *Stenus nigritulus*, Gyll.

Dover ; Bedfordshire ; Tintern ; and Mablethorpe—T. V. W. Cosmore Quay, Dorsetshire—J. C.

Sp. 26. *Stenus campestris*, Erichs.

Neighbourhood of London?—G. R. W.

Sp. 27. *Stenus unicolor*, Erichs.

Common in the neighbourhood of London ; in moss, in the month of December ; Hampstead Heath—G. R. W. Tintern ; Flamborough, Yorkshire ; Spridlington ; Whittlesea Mere ; Holyhead ; Rosnalee ; and South Ferriby—T. V. W. Petersfield, Hants ; and Glanvilles Wootton—J. C. Highgate, Colney-hatch ; Finchley ; in moss in the winter—E. W. J.

Sp. 28. *Stenus binotatus*, Ljungh.

Neighbourhood of London—G. R. W. Holyhead—T. V. W. Tollesburs, Essex—J. C.

Sp. 29. *Stenus subimpressus*, Erichs.

Dartford, Kent—G. R. W. Whittlesea Mere and Lincoln—T. V. W. Banks of the Lea, near Tottenham, March ; Northampton (Mr. R. N. Greville)—E. W. J.

Sp. 30. *Stenus plantaris*, Erichs.

Whittlesea Mere; and Slapton Ley—T. V. W. Northampton (Mr. R. N. Greville)—E. W. J.

Sp. 31. *Stenus plancus*, Erichs.

Roots of trees, in the winter; Christchurch Meadows, Oxford—J. C. Colneyhatch, in moss, February; Wanstead, in moss, March; Finchley, not uncommon in the autumn—E. W. J.

Sp. 32. *Stenus bifoveolatus*, Erichs.

Sp. 33. *Stenus rusticus*, Erichs.

Cransley; Avebury, Wilts; Withington; Spridlington; South Ferriby; Mona, near Pencraig, S. of Anglesea; Northampton; Danes Dyke, Flamborough; Holyhead; Ambion Wood, Leicestershire; Killarny and Rosnalee—T. V. W. Colneyhatch and Finchley, in moss, late in the autumn—E. W. J.

Sp. 34. *Stenus tempestivus*, Erichs.

Shenton; Whittlesea Mere; Ferriby; Treneglos, and Rosnalee—T. V. W. Berwickshire (Mr. J. Hardy); Northampton (Mr. R. N. Greville)—E. W. J.

Sp. 35. *Stenus subæneus*, Erichs.

Northampton—T. V. W. Mickleham—J. C. Chalk-pit, Charlton, May; Renfrew (Mr. J. Scott); Shanklin, Isle of Wight, in moss (Mr. G. Guyon)—E. W. J.

Sp. 36. *Stenus picipes*, Stephens.

*palustris*, Erichson, var. ?

Whittlesea Mere; Spridlington; and Rosnalee—T. V. W. Finchley, July and August—E. W. J.

Sp. 37. *Stenus impressus*, Germ.

Glanvilles Wootton—J. C. Trebartha; Withington; Mona; Spridlington; Deal; Scawby; Mablethorpe; Slayford-bridge, Hampshire; Ambion Wood; Holyhead; Rosnalee; and Killarny—T. V. W. Isle of Wight—G. R. W. Highgate, in moss, January; Hampstead; Finchley, in spring and autumn—E. W. J.

Sp. 38. *Stenus geniculatus*, Grav.

Slayford Bridge, Hampshire—T. V. W.

Sp. 39. *Stenus flavipes*, Erichs.

Colneyhatch; Finchley, in moss, in winter and early spring; Shanklin, Isle of Wight, in moss (Mr. G. Guyon)—E. W. J.

Sp. 40. *Stenus fuscicornis*, Erichs.

Greenhithe, Kent—G. R. W.

Sp. 41. *Stenus pallipes*, Grav.

Colneyhatch, in moss, January; Finchley, September—E. W. J.

Sp. 42. *Stenus filum*, Grav.

Isle of Wight—G. R. W. Cotswold Hills, Gloucestershire; Spridlington; Bridlington, Yorkshire; Treneglos; Cransley; Ferriby; Ambion Wood—T. V. W. Hampshire and Dorsetshire—J. C. Water Down, near Tonbridge Wells (Rev. J. F. Dawson); Shanklin, Isle of Wight, in moss (Mr. G. Guyon)—E. W. J.

Sp. 43. *Stenus tarsalis*, Ljungh.

Common in the neighbourhood of London—G. R. W. Bedfordshire; Tintern; Cransley; Northampton; Llangollen; North Wales; Killarny—T. V. W. Glanvilles Wootton—J. C. Wanstead, in moss, March; Northampton (Mr. R. N. Greville)—E. W. J.

Sp. 44. *Stenus oculutus*, Grav.

Hampstead Heath, in moss, December—G. R. W. Bridlington; Mablethorpe; Spridlington; Headley; Rosnalee, and Killarny—T. V. W. Dover; Dorset, and Suffolk—J. C. Finchley, abundant in spring and autumn; Shanklin, Isle of Wight (Mr. G. Guyon)—E. W. J.

Sp. 45. *Stenus cicindeloides*, Grav.

Neighbourhood of London—G. R. W. Whittlesea Mere—T. V. W. Battersea Fields, June; Shanklin, Isle of Wight, in moss (Mr. G. Guyon)—E. W. J.

Sp. 46. *Stenus paganus*, Erichs.

Epping Forest—J. C. North Wales; Trebartha; and Rosnalee—T. V. W.

Sp. 47. *Stenus latifrons*, Erichs.



Sp. 48. *Stenus contractus*, Erichs.

*basalis*, Curtis.

*fornicatus*, Kirby's collection.

New Forest—J. C. Colneyhatch, in moss, February—E. W. J.

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*Notes on the Species of Stenus described by Kirby; and, in the "Illustrations of British Entomology," by Mr. Stephens; together with Observations upon the Specimens in Mr. Stephens' Collection.*

DR. J. E. Gray, the present possessor of the Kirbyan Manuscripts on the *Staphylinidæ*, having kindly lent one of us the three volumes in which they are contained, we will venture to say a word or two respecting them, before we proceed to the immediate object of the present communication. The descriptions are each written on separate slips of paper;\* and the number of genera and species, described with considerable detail, is about six hundred, or rather more, these comprising the greater portion of the British *Staphylinidæ*, together with some Continental species (often from Swedish specimens sent by Gyllenhal) and some exotic. The generic characters are given in great detail, and not unfrequently accompanied with drawings of parts of the mouth, &c. As regards the descriptions of the British species, they were drawn up from the specimens in the author's own collection, and those of several other cabinets; those most frequently referred to are the cabinets of Mr. Spence, Dr. Leach (now in the British Museum), Messrs. Sheppard, Marsham and Simpson, and Dr. Joseph Hooker. Mr. Wilkin's collection is also referred to. This last mentioned collection became the property of Mr. Vigers, and was presented by him, together with his collections in other branches of Natural History, to the Zoological Society. In it will be found a tolerably good series of British *Staphylinidæ*, with Kirby's names attached, and there are good grounds for believing that many of them were examined and named by Kirby.†

\* Evidently early in the present century.

† It appears by notes attached to some of the species of *Stenus*, that Mr. Wilkin was not satisfied, in all cases, with the names furnished him by Kirby. Of the species named *angustatus* there are three or four specimens, one of which has



With regard to Mr. Stephens' collection, it is desirable that it should be known that Mr. Stephens visited Mr. Kirby, and took with him a large number of insects to compare and name, the *Stenidæ* amongst others: further, one of us was informed, by Mr. Stephens, that Kirby furnished him, in many instances, with specimens. The Stephensian collection will therefore furnish a certain amount of assistance to those who are anxious to determine the Kirbian species; there are, however, several instances in which the insects, placed to represent the Kirbian species, differ widely from the Kirbian types.\* Should the foot note at p. 99, vol. v. "Mandibulata," of Mr. Stephens' work, have been overlooked, it will be asked, why not regard the *Staphylinidæ*, in Mr. Stephens' collection, as the true types of the species whose names they bear? The answer is contained in the note referred to.

The descriptions in the "Illustrations," so far as the Kirbian species of *Staphylinidæ* are concerned, are in fact translations of Kirby's Latin descriptions, often somewhat abbreviated. That they are abbreviated is to be regretted, and this regret was shared by Mr. Stephens. "*I greatly fear,*" says the author, "*that notwithstanding the elaborate descriptions, I shall fall into error in my attempted abridgment of them in order to suit the limits of this work, as I have not sufficient time to investigate them,*" i. e. the species of *Staphylinidæ*.

Having consulted the manuscripts alluded to, and also having carefully examined the *Steni* in the collections of Kirby, Leach, Wilkin and Stephens, we will now furnish the determination which we have arrived at from these sources, taking the species and sections as they stand in the Kirbian manuscripts.

been separated from the rest, and has the following note attached:—"Named *angustatus*, K., quite distinct, not so long and narrow, and smooth." Another specimen, named *binotatus*, is separated from that species as being "less punctured" and having the "tarsi flavescent." Wilkin applies the name *flavitaris* to this insect; the species had, however, been previously named *pallitaris* by Kirby, and is described by Erichson under the name *plantaris*. Stephens gives it in the "Manual" as var. ? *tarsalis*. It has the abdomen margined, and therefore cannot be *tarsalis*.

\* The extremely liberal manner in which Mr. Stephens threw open his collections to all Entomologists who wished to consult them is well known. Often on Mr. Stephens' "Wednesday Evenings" many Entomologists were assembled, each one of whom was engaged in comparing his specimens with those in Mr. Stephens' collection. Minute species were necessarily removed from the cabinet for this purpose, and it will be pretty evident, under such circumstances, that transposition of the specimens will sometimes have occurred.

## Section 1 (\* of the manuscript).

*Elytra with a pale spot.*Sp. 1 (1). *binotatus*, Kirby, MSS.Stephens' Illustrations, Mandibulata, vol. v.  
(1833).- *bimaculosus*, Steph. Manual.

Unquestionably introduced by Mr. Stephens, by mistake, as a British insect; his collection does not possess the species, and the notices of its habitats must refer to some other insect. *St. binotatus* of Kirby's MSS. (from which Mr. Stephens' account is taken, with the exception of the localities) is founded upon a single specimen seen in the cabinet of Mr. Lee, the habitat of which was not known, but Kirby seems to have felt no doubt it was a foreign insect, for he includes it in his list of "*Foreign Staphylini*," which will be found near the end of his MS. Catalogue, now in the Library of the Entomological Society.

Sp. 2 (2). *cærulescens*, Kirby, MSS.*Dianous cærulescens*, Stephens, Curtis, Erichs. &c.

Described in the MSS. from Swedish specimens furnished by Gyllenhal; a subsequently added note states that the species had been found at Hastings, by Dr. Hooker.

Sp. 3 (3). *biguttatus*, Kirby, MSS., and also of his Collection.

Stephens' Illustr.

Erichs.

*Staphylinus bipustulatus*, Marsham, according to the type specimen in Stephens' Collection.

*Sten. bipustulatus*, Steph. Collection.Sp. 4 (4). *bipustulatus*, Kirby, MSS. and Collection.

Steph. Illustr.

*biguttatus*, Steph. Coll.*bipunctatus*, Erichs.

The basal joint of the palpi is testaceous in Kirby's specimens, and the second and third joints are black; the palpi are therefore not wholly black, as stated in the description. The trochanters are pitchy black. In the *Stenus biguttatus* of Kirby's Collection the palpi have the first joint, and half the second, pale, and the remainder dusky: it is the more slender and delicately made species, with a smaller spot on the elytra, and that rather nearer the suture than in Kirby's *bipustulatus*.

- Sp. 5 (5).† *Juno*, Kirby, MSS., in Index of the Species.  
*biguttulus*, in the text.‡  
*bimaculatus*, Steph.  
 Erichs.

- Sp. 6 (6). *bipunctatus*, Kirby, MSS. and Collection.  
*guttula*, Steph. Erichs.  
*Kirbyi* (Leach), Steph., and of Leach's Collection.  
 Gyllenhal.

Section 2 (\* \*, a 1, Kirby). *Abdomen margined, legs pale.*

- Sp. 7 (1). *brevis*, Kirby, MSS. and Collection.  
 of Wilkin's Collection.  
*circularis*, Erichs.  
 Steph. Illustr. (the description from Kirby),  
 not of Collection.  
*immunis*, Steph. Coll.

- Sp. 8 (2). *flavipes*, Kirby, MSS.  
 Steph. Illust. and Coll.  
*pallipes*, Grav.? Kirby, MSS.  
 Leach, Coll., Kirby, Coll.  
*filum*, Erichs.

- Sp. 9 (3). *immunis*, Kirby, MSS. and Collection.  
 Steph. Illustr. (not Coll.)  
*pallipes*, Erichs.

- Sp. 10 (4). *aceris*, Kirby, MSS. and Collection.  
 Steph. Illustr. and Collection.  
 Leach, Coll.  
 Wilkin's Coll.

† The numbers in brackets correspond with those on the insects in Kirby's Collection, and also with the numbering of the species in the MSS.

‡ Each section of the *Steni* is preceded in the MSS. by a slip bearing the names of the species which it contains, but sometimes the names in the Index do not correspond with those heading the descriptions, for it appears that at some subsequent period particular species were identified by Kirby with the descriptions published by other authors. Thus, in the present instance, we find added to other synonyms (and subsequently inserted), "*St. Juno*, Grav."—the name adopted in the Index. It may here be stated, that the numbering of the species recommences with each section, and hence, in consulting Kirby's Collection (the specimens in which are numbered to correspond with this MSS.), it is highly important that the sectional characters of the specimens be attended to.

*subrugosus*, Steph. Coll., also *St. tenuicornis*, of Steph. Collection, but his description seems to belong to *St. subcæneus*, Er.

*impressus*, Erichs.

*St. fuscipes* of Steph. Collection is the same, but does not agree with the description.

Sp. 11 (5). *gonymelas*, Kirby, MSS. and Coll.  
Steph. Illustr. and Coll.  
Leach, Coll.

*geniculatus*, Steph.

*subcæneus*, Erichs.

Sp. 12 (6). *canaliculatus*, Kirby, MSS., and Coll.  
Steph. Illustr. and Coll.  
Wilkin's Coll.

*clavicornis*, Steph. Coll.

*punctatissimus*, Steph. Coll.

*speculator*, Erichs.

Sp. 13 (7). *nigricornis*, Kirby, MSS. and Coll.  
Steph. Illust. and Coll.  
Leach, Coll.

*boops*, Steph. Collect., also *St. atricornis* of the same.  
*speculator*, Erichs.

Sp. 14 (8). *nitidiusculus*, Kirby, MSS. and Coll.  
Steph. Illustr. (not Coll.)  
Leach, Coll.

*juncorum* (Leach), Stephens.

*tempestivus*, Erichs.

*St. nitidiusculus* of Stephens' Collection is *speculator*, Er.

Sp. 15 (9). *picipes*, Kirby, MSS. and Collection.  
Steph. Illustr. (not of the Collection.)  
*rusticus*, Erichs.

The *St. picipes* of Stephens' Collection is referred to in the account of *St. ossium*, No. 17.

Sp. 16 (10). *phæopus*, Kirby, MSS. and Coll.  
Steph. Illustr. (not the Coll.)

*bifoveolatus* (Gyll.), Erichs.

*St. phæopus* of Stephens' Collection is *St. rusticus*, Er.

Sp. 17 (11). *St. ossium*, Kirby, MSS. and Collection.  
*palustris*, Erichs.?

We have before us three specimens of *Stenus* differing more or less, but which agree in having a slight bronze tint, in having the legs more or less pale, with dark knees; the thorax with a broadish shallow dorsal channel and two depressions behind; the tarsi elongate, slender, and with the fourth joint strongly bilobed. Two of these agree in having the two basal joints, and the apex of the antennæ, black (or nearly so), and the intermediate joints pitchy testaceous. One of these has rather coarse and somewhat scattered punctures on the abdomen; this we take to be the *St. subæneus* of Erichson, and it is certainly the *St. gonymelas* of Kirby. The second of these two differs from *gonymelas* in having the abdomen very finely and thickly punctured, and the puncturing, both of the thorax and elytra, less coarse. It stands as *St. picipes*, *St. bifoveolatus* and *St. ossium* in Stephens' Collection. In both these insects the femora have the basal half testaceous, and the apical half black; the tibiæ and tarsi pitchy, or pitchy-testaceous. We believe these to be good species, having examined very many specimens; both are common in England.

The third insect is the true *St. ossium* of Kirby's Description, and of his Collection. Whilst *St. gonymelas* is rather the largest of the three insects under consideration, this is decidedly the smallest, being equal to *St. pallipes*.\* Here the antennæ are testaceous, with the apex dusky, the basal joint black, and the second joint very slightly tinted with piceous on the upper surface; the tibiæ are pale, excepting at the base, and the tarsi are for the most part pale also. Besides these points we can perceive no difference between this insect and that which Stephens calls *picipes*. Further, it appears to us that the *Stenus ossium* of Kirby must be the same as the *St. palustris* of Erichson. We doubt whether *St. ossium*, and the so-called *St. picipes*, be distinct, but having seen a single specimen only presenting the peculiarities of the former, we must leave the question open.

Sp. 18 (12). *sulcicollis*, Kirby, MSS.

In Kirby's MSS. there is no full description of this species, all that is given being the short Latin diagnosis, which precedes the description in Mr. Stephens' work, with this exception, that, in the

\* The shorter thorax and elytra and the more coarse sculpturing of these parts, as well as the entirely pale legs in *pallipes*, will prevent the *St. ossium* being confounded with it.

original, the last phrase is "pedibus piceis," not "*rufo-piceis*," as in the "Illustrations." The detailed description in this work is possibly from a small specimen of *St. subcæneus*, Er. The insect in Mr. Stephens' cabinet which stands for *sulcicollis* evidently is misplaced by a black-legged species, i. e. *St. melauopus*, of Marsham.

Sp. 19 (13). *submarginatus*, Kirby, MSS. and Coll.

Steph. Illustr. (not of Coll.)

*vafellus*, Erichs.

*St. submarginatus* of Steph. Coll. is *St. rusticus*, Er.

Section 3 (\*\* a2). *Abdomen margined, legs black.*

Sp. 20 (1). *lineatulus*, Kirby, MSS. and Coll.

Steph. Illustr. and Coll.

Leach's Coll.

*buphthalmus* (Gyll.), Steph. Coll.

*Juno*, Erichs., Steph.

Sp. 21 (2). *pubescens*, Kirby, MSS. and Coll.

Steph. Illustr. and Coll.

Leach, Coll.

*lævis*, Steph. Illustr. and Coll.

*lævior*, Wilkin's Coll.

Steph. Coll.

*subimpressus*, Erichs.

According to the MSS., Kirby first imposed the name *læviusculus*; this was afterwards altered to *lævior*, and ultimately to *pubescens*. He does not make two species, as would appear from the descriptions in the "Illustrations."

Sp. 22 (3). *pilosulus*, Kirby, MSS. and Coll.

Steph. Illustr. (not Coll.)

*binotatus*, Erichs.

*affinis*, Steph. Coll.

*pilosulus*, of Stephens' Collection, is *rusticus* of Erichson.

Sp. 23 (4). *argenteus*, Kirby, a Swedish insect, received from Gyllenhal.

Sp. 24 (5). *affinis*, Kirby, MSS. and Coll.

Wilkin's Coll.

Steph. Illustr. (not Coll.)

*Canaliculatus*, Erichs.

*St. affinis* of Stephens' Collection is *St. binotatus* of Erichs.

Sp. 25 (6). *angustatus*, Kirby, MSS. and Coll.

Steph. Illustr. and Coll.

Wilkins, Coll.

*buphthalmus*, Erichs.

Sp. 26 (7). *melanarius*, Kirby, MSS. and Coll.

Steph. Illustr. (not the Coll.)

*cinerascens*, Erichs. ?

*Stenus melanarius*, Kirby.

Black, sparingly clothed with whitish pubescence; thorax and elytra but little glossy; abdomen glossy. Head thickly punctured, about one-third broader than the thorax, the frontal sulci moderately impressed, and separated by an evenly convex space; antennæ with the third and fourth joints nearly equal (the third rather the longer); palpi black, with the basal joint testaceous. Thorax subcylindrical, the sides gently rounded, and the broadest part rather in front of the middle; thickly punctured, the interspaces between the punctures very narrow, but for the most part flat; a slight transverse depression near the front, and the base obscurely depressed, and somewhat rugulose in the middle. Elytra rather small, but little longer than the thorax; rather thickly but not strongly punctured, the interspaces flat, depressed at the suture, and with an oblong depression between this part and the shoulder; these parts scarcely torulose. Abdomen considerably elongated, and narrow; but little convex, and with fine, and somewhat widely scattered, punctures. Tarsi rather short.

Amongst the British species this approaches most nearly in size and general appearance to the *St. buphthalmus*, Er., but it has a narrower thorax, and the sides of this segment are not so much dilated; the elytra are less strongly punctured (not rugulose), and the middle basal depression, as well as the sutural one, are more marked; the punctures on the abdomen are less strong, and less numerous. The head, moreover, is rather narrower, and the frontal ridge is rather less strongly marked than in *St. buphthalmus*.



Of the species described by Erichson there are two, which in their general characters must approach very nearly to Kirby's *St. melanarius*; we allude to the *St. incunus* and *St. cinerascens*, in both of which the elytra are but little longer than the thorax, and the abdomen sparingly and finely punctured. The first, however, is said to have the forehead deeply bisulcate; the elytra longitudinally torulose, and the basal joint of the palpi piceous—points which do not accord with Kirby's insect. On the whole, the description of *St. cinerascens* agrees so nearly with Kirby's insect, that we suspect we might safely remove the note of doubt after that name, given as a synonym; the phrase "*Caput thorace paulo latius, coleopteris dimidio angustius*," however, seems to imply that the head is rather narrower, and the elytra somewhat broader, in *cinerascens* than in *melanarius*.

We have seen but one specimen of the *St. melanarius*—that in the Kirbian Collection.

The insect which stands as *melanarius*, Kirby, in Stephens' Collection, is the *St. unicolor* of Erichson, and does not agree with the description given in the "Illustrations."

We will here notice a nearly allied species,\* which we think will prove to be the *St. morio*, Erichs.

It has the elytra more ample and the abdomen more thickly punctured than the *St. melanarius*, and differs, moreover, in the forehead being somewhat concave. This last-mentioned character will likewise serve to separate it from the *St. canaliculatus*, Er., as well as the absence of the dorsal channel to the thorax. The thorax itself is rather narrower, and this part, as well as the elytra, are a little less thickly punctured. In other respects, it much resembles the *St. canaliculatus*.

Sp. 27 (8). *melanopus*, Kirby, MSS. and Collection.

Steph. Illustr. and Coll.

Wilkin's Coll.

*Staph. melanopus*, Marsham, according to the type specimen in Stephens' Coll.

Niger, nitidus, albido-pubescent, parcius punctatus, interstitiis planis; fronte profunde bisulcato; palpis articulo primo testaceo; thorace breviusculo, breviter, at sat profunde canaliculato; elytris thorace longioribus; abdomine parcius punctulato.

Long. corp.  $1\frac{1}{2}$  lin.

\* In the collection of Mr. Janson.

This species is rather smaller than *St. canaliculatus*, Er., and its puncturing, though strong, is much less dense than in that, and many allied species; hence it appears more black and glossy. The short and rather strong groove on the disc of the thorax also helps to distinguish it. The head is very little broader than the thorax; the forehead deeply sulcated on either side, the convex mesial ridge well marked; antennæ moderate, with the third and fourth joints equal (or, *very* nearly so); palpi black, with the basal joint testaceous: thorax rather short, posteriorly a little narrower than in front, the sides rounded and the greatest breadth rather in front of the middle; strongly punctured and with flat interspaces between the punctures, which, for the most part, rather exceed in width the punctures themselves; a short but distinct groove on the disc, sometimes extending nearly to the base, and frequently are seen two small foveæ at the last mentioned part, not far removed from the mesial line; elytra about half as broad again as the thorax, their length and width about equal, the surface punctured like the thorax, the region of the scutellum depressed, excepting on the hinder part. Abdomen strongly margined, the surface of the segments more finely punctured than the other parts noticed, and the punctures rather more scattered. Legs moderate, the fourth joint of the tarsi simple.

A common and widely distributed insect in England, which we cannot clearly identify with either of Erichson's descriptions; it must be very close to *St. nitidus*, but the phrase relating to the antennæ, "articulo tertio quarto sesquilingiore," cannot be applied to our insect.

Sp. 28 (9). *pusillus*, Kirby, MSS. and Coll.  
Steph. Illustr. and Coll.  
Leach, Coll.  
Erichs.

Sp. 29 (10). *nitidus*, Kirby, MSS. and Coll.  
Steph. Illustr. (not Coll.)  
Leach, Coll.  
*plancus*, Erichs.

There is a single specimen in Mr. Stephens' Collection under the name *nitidus*; it is in bad condition, but appears to be the *St. latifrons* of Erichs.

Sp. 30 (11). *nitens*, Kirby, MSS.  
Steph. Illustr. (not the Coll.)

Described by Kirby from an insect in Dr. Leach's Collection, which we find to be the *St. æmulus* of Erichson. The "*nitens*" of Stephens' Collection does not answer to his description: it is *St. rusticus* of Erichson.

- Sp. 31 (12). *pallitarsis*, Kirby, MSS. and Coll.  
                                 Steph. Illustr. and Coll.  
                                 Leach, Coll.  
*flavitarsis*, Wilkin's Coll. (not of Steph.)  
*plantaris*, Erichs.

Section 4 (\* \* b1). *Abdomen immarginate, legs pale.*

- Sp. 32 (1). *oculatus* (Grav.) Kirby, MSS. and Coll.  
                                 Steph. Illustr. and Coll.  
                                 Leach, Coll.  
                                 Wilkin's Coll.  
                                 Erichs.  
*cognatus*, Steph. Illustr.

- Sp. 33 (2). *cicindeloides* (Grav.), Kirby, MSS. and Coll.  
                                 Steph. Illustr. and Coll.  
                                 Leach, Coll.  
                                 Wilkin's Coll.  
                                 Erichs.

*scabrior*, Steph. Illustr. and Coll.

Kirby originally gave the name *scabrior* to this species; but, subsequently, finding it described under the name *cicindeloides* by Gravenhorst, he adopted the latter name.

- Sp. 34 (3). *brunnipes*, Kirby, MSS. and Coll.  
                                 Steph. Illustr. and Coll.  
                                 Wilkin's Coll.  
*Marshami* and *gracilis*, Steph. Coll.  
*unicolor*, Erichs.

The insect which we have regarded as *St. unicolor* of Erichson has the fourth joint of the tarsi obcordate, or sub-bilobed, and in this respect does not agree strictly with the description; when compared, however, with the species which it most resembles—*St. latifrons*, Er., there is a marked difference in the tarsi, the last-mentioned insect having the fourth joint very strongly bilobed. The more distinct ridge on the head of the insect, which we regard as *unicolor*, will also help to distinguish it from *latifrons*.

Sp. 35 (4). *fulvicornis*, Kirby, MSS.

Steph. Illustr. and Coll. ; and *St. pallipes*  
(Grav.), Steph. Coll.

Leach, Coll.

*paganus*, Erichs.

The insect in Kirby's cabinet, which, according to the number it bears, should be his *St. fulvicornis*, is *St. tarsalis* of Erichson, and does not agree with Kirby's description, which is no doubt from the *St. paganus* of Erichson. In the MSS., Leach's collection is said to possess the species, and there we find the *St. paganus* named as *fulvicornis* ; the same insect is similarly named in Stephens' Collection.

Sp. 36 (5). *curvipes*, Kirby, MSS.

Described from an insect in Wilkins' Collection. The specimen is in bad condition, having lost one of its elytra, as well as the abdomen : its posterior tibiæ are bowed inwards and forwards in a marked degree, but it appeared to us that they were not both quite alike, and this leads us to doubt their presenting a natural condition of the parts in question. On the whole, after a careful examination, we came to the conclusion that it was a crippled specimen of *Stenus fuscipes*, Er. This guess we subsequently found to accord well in one important particular with the description by Kirby, for we find the phrase "*abdomen teres submarginatum*" in the MSS.

Sp. 37 (6). *similis*, Kirby, MSS. ?

Steph. Illustr. and Coll.

*paganus*, Erichs.

This species is merely named by Kirby in his MSS. : the description in the Illustrations is original. The insect which in Mr. Stephens' cabinet stands as *St. similis* (and which is no doubt the insect described), is the *paganus* of Erichson, whilst the *St. similis* in Kirby's Collection is the very nearly allied species, differing in having the antennæ pitchy in the middle (instead of pale testaceous), the elytra narrower, and the sculpturing rather less coarse, in fact the species which we regard as the *St. latifrons* of Erichson.\*

\* There is some confusion in the differential characters as pointed out by Erichson, which however is readily corrected by perusal of the descriptions.

Section 5 (\* \* b2). *Abdomen immarginate, legs black.*

Sp. 38 (1). *rufitarsis*, Kirby, MSS. and Coll.

Steph. Illustr. and Coll.

Leach, Coll.

*tarsalis*, Erichson.

Steph. Illustr. and Coll.

*flavitaris*, Steph. (not Wilkin's Collection; see *pallitarsis*, K).

Sp. 39 (2). *nigriclavis*, Kirby, MSS.

Steph. Illustr. and Coll.

*tarsalis*, Erichs.

There are varieties of *St. tarsalis* in which the tarsi are almost black, and others in which they are pale; the former, it would appear, constitute the *St. nigriclavis* of Kirby, and the latter his *St. rufitarsis*.

Sp. 40 (3). *unicolor*, Kirby, MSS.

*St. unicolor* of Stephens' Collection is no doubt the same as *St. unicolor* of Erichson, but the description in the Illustrations (which is from Kirby's MSS.) gives the legs as being *black*. The true *unicolor* of Kirby is most probably the *St. campestris* of Erichson.

Sp. 41 (4) *fornicatus*, Kirby, MSS. and Collection.

Leach, Collection.

Steph. Illustr. (not of his Coll.)

*contractus*, Erichs.

This species was originally described from Dr. Leach's Collection. Kirby did not notice the pale spot at the base of the tibiae of this singularly formed species.

Sp. 42 (5). *assimilis*, Kirby, MSS.

Not known to us. *St. assimilis* of Stephens' Collection is *St. unicolor*, which, however, cannot be the insect described by Kirby, nor that of the *Illustrations*.

Sp. 43 (6). *crassus*, Kirby, MSS.

Steph. Illustr. and Coll.

*nigritulus*, Erichs.

Besides the Stephensian species already noticed in this list, there remains in the "*Illustrations*"—

Sp. 22. *St. argyrostoma*, Steph., which is *fuscipes*, Erichs.

Sp. 55. *St. carbonarius* (Gyll.), Steph.

With this name there are no specimens in Stephens' Collection, but in its place are two insects, viz., *fuscipes*, Erichs., and *fuscicornis*, Erichs.

Sp. 59. *nanus*, Steph. Coll.

*declaratus*, Erichs.

One of the specimens is *St. pusillus* of Erichson.

XVII. *Descriptions of some Species of Brazilian Ants belonging to the Genera Pseudomyrma, Eciton and Myrmica (with Observations on their Economy by Mr. H. W. BATES). By FREDERICK SMITH, Esq.*

[Read January 1st, 1855.]

GENUS PSEUDOMYRMA, Guér.

*Antennæ* sub-clavate, 13-jointed in the females, 12-jointed in the workers, the antennæ slightly thickened towards their apex, not quite so long as the head and thorax, inserted on the anterior part of the face, near the mouth, on each side of a short elevated carina. *Mandibles* triangular, denticulated on their inner margin. *Eyes* elongate-ovate, very large, occupying a large portion of the head: ocelli three, placed in a triangle on the vertex. *Thorax* elongate, compressed at the sides; the anterior wings having one marginal and two complete submarginal cells, the second receiving the first recurrent nervure near its base; one discoidal cell; legs short and stout. *Abdomen* ovate; the first segment forming an elongate pedunculated node, the second large and globose.

The name *Pseudomyrma* is proposed for the insects comprised in this genus by Lund, in the *Annales des Sciences Naturelles*, 1831; but the only character there given is the extraordinary